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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,987	10/29/2003	Masatoshi Yonekubo	117367	5325

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EXAMINER	
ROY, SIKHA	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/694,987	YONEKUBO ET AL.	
	Examiner	Art Unit	
	Sikha Roy	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 9-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7 and 9-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Amendment, filed on September 14, 2006 has been entered and acknowledged by the Examiner.

Cancellation of claims 2,3,8 and 16-18 has been entered.

Acknowledgement is made of the receipt of the English translation of foreign priority application of JP 2002-326909 filed November 11, 2002.

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claims 1,4-7, 9-15 are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-7, 9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,639,350 to Sejkora and further in view of U.S. Patent U.S. Patent 6,324,011 to Higuchi.

Regarding claims 1 and 9 Sejkora discloses (Figs. 2a, 3 column 4 lines 8-42, column 5 lines 32-41) a display element (illumination arrangement) comprising an

emission layer having a light-emitting layer 7 emitting light by a voltage applied between electrodes, a transmission layer 5 that transmits light emitted from the layer 7, a total reflection surface (recesses) 6 in the transmission layer that is capable of totally reflecting at least a part of light radiated from the light-emitting layer 7 in a direction of emission of the light-emitting layers. Sejkora discloses (column 4 lines 58-61) the transmission layer includes a transparent substrate 4, the side of the transparent member facing the emission layer having recesses 6, at least one lateral surface of each recess acting as the total reflection surface. Sejkora further discloses (column 5 lines 63-65, column 8 formula 7) the inclination angle of the total reflection surface (which is same as α in Fig. 4a) is greater than 70.6° considering the maximum emission angle γ_{max} = 70° (claim 1) and n_s, the refractive index of the structural block 5 being 1.5.

Claim 1 differs from Sejkora in that Sejkora does not exemplify the interior of the recess filled with gas or substantially evacuated.

Higuchi in same field of endeavor discloses (Figs. 1,2 column 7 lines 59-64, column 11 lines 35-62) a guide plate including groove like concave portions 4 having second light guide member 5 occupying inside each groove like member, and filled with air. Light is reflected from the optical faces (inclined at specific angles) of the groove like member. Higuchi discloses this configuration provides the refraction ratio of the second guide member 5 less than the refraction ratio of the plate 3 and thus provides directivity of light emitting from the plate and enhanced emission.

Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to have the recess of Sejkora filled with gas (air) as suggested

by Higuchi so that the refractive index of the medium inside is less than that of the transparent substrate and thus providing directivity and enhanced light emission.

Regarding claim 4 Sejkora discloses (Fig. 5a column 8 line 66 through line 10) the display element comprises a substrate 11 having the emission layer 15 on the surface thereof.

Regarding claim 5 Sejkora discloses (Fig. 5a column 9 lines 1-15, 26-59) the display element comprising substrate 11 having the emission layer on its surface, a bonding layer 12 that is formed between the transparent member 5 and the emission layer 15 so that a protrusion between the recesses of the transparent member is in optically close contact with the light emitting-layer.

Regarding claim 6 it is evident from Fig. 5a the thickness of the bonding layer 12 is smaller than the depth of the recesses.

Regarding claim 7 Sejkora discloses (Figs.3 and 5a) the display element comprises plurality of light-emitting layers, protrusions between the recesses being arranged at the same pitch as that of the light-emitting layers.

Regarding claim 11 Sejkora discloses (column 5 lines 32-52) the light emitting layer comprising polymer film of PPV which is an organic electroluminescent material.

Regarding claim 12 Sejkora discloses (Figs. 2a,2b, 3 column 5 lines 32-52) a display panel comprising emission layer having plurality of light emitting layers which emits light when voltage is applied between electrodes, a transmission layer that transmits light , a plurality of total reflection surfaces 5 that is capable of totally reflecting

a part of light radiated from the light-emitting layers in a direction of emission. Sejkora discloses (column 4 lines 58-61) the transmission layer includes a transparent substrate 4, the side of the transparent member facing the emission layer having recesses 6, at least one lateral surface of each recess acting as the total reflection surface. Sejkora further discloses (column 5 lines 63-65, column 8 formula 7) the inclination angle of the total reflection surface (which is same as α in Fig. 4a) is greater than 70.6° considering the maximum emission angle γ_{max} = 70° (claim 1) and n_s, the refractive index of the structural block 5 being 1.5.

Claim 12 differs from Sejkora in that Sejkora does not exemplify the interior of the recess filled with gas or substantially evacuated.

Higuchi in same field of endeavor discloses (Figs. 1,2 column 7 lines 59-64, column 11 lines 35-62) a plate including groove like concave portions 4 having second light guide member 5 occupying inside each groove like member, and filled with air. Light is reflected from the optical faces (inclined at specific angles) of the groove like member. Higuchi discloses this configuration provides the refraction ratio of the second guide member 5 less than the refraction ratio of the plate 3 and thus provides directivity of light emitting from the plate and enhanced emission.

Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to have the recess of Sejkora filled with gas (air) as suggested by Higuchi so that the refractive index of the medium inside is less than that of the transparent substrate and thus providing directivity and enhanced light emission.

Claims 13 and 14 essentially recite the same limitations as of claims 2 and 7 respectively and hence are rejected for the same reason (see rejections of claims 2 and 7).

Regarding claim 15 Sejkora discloses (column 5 lines 33-41) the illumination arrangement having electrical voltage applied between the electrodes for exciting electroluminescence and hence inherently includes a drive unit driving the EL layer of the display panel (lighting arrangement).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,639,350 to Sejkora , U.S. Patent 6,324,011 to Higuchi and further in view of JP 08-321381 to Furukawa et al.

Regarding claim 10 Sejkora does not exemplify the display element further comprising a circularly polarizing plate that is disposed on the transmission layer adjacent to the emerging surface.

Furukawa in the same field of endeavor discloses (Fig1. Sections [0002], [0005]) a circularly polarizing plate (linearly polarized light plate and a phase contrast plate) disposed on the transmitting substrate 3. Furukawa further teaches this circularly polarized plate prevents external light reflected from the second electrode disposed below the light emitting layer and overlapping with the display and thus offers a legible organic EL display.

Therefore it would have been obvious to one of ordinary skill in the art a the time of invention to include a circularly polarized plate as taught by Furukawa disposed on the light emerging surface of Sejkora for preventing any external light reflected from the second electrode disposed below the light emitting layer and overlapping with the display and thus offering a legible organic EL display.

Response to Arguments

Applicant's arguments filed September 14, 2006 Applicant's arguments with respect to claims 1 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sikha Roy

Sikha Roy
Patent Examiner
Art Unit 2879